



prss<sup>®</sup> **content**depot<sup>®</sup> station  
installation  
manual

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Public Radio  
Satellite System<sup>®</sup>

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# Preface

## Who Should Read This

This manual is intended for the station engineers, operations staff, and IT staff at PRSS<sup>®</sup> interconnected stations: those responsible for installing, operating, and maintaining the equipment that acquires and plays out the programming at your radio station.

## About This Manual

This manual covers the installation, configuration, and start-up of the PRSS<sup>®</sup> ContentDepot<sup>®</sup> gear at public radio stations. It does not address operation or maintenance of the equipment or operation of station automation systems. This manual is suitable for both new installations and upgrades and is also available at [www.prss.org](http://www.prss.org).

## How to Use This Manual

We strongly recommend that you read and understand this entire manual before starting your installation. The following table summarizes the sections of this manual.

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### Guide to using this manual

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For the impatient or those with simple installations...	<ul style="list-style-type: none"><li>• Go to the Quick Start section for the fewest instructions.</li><li>• Or, skip to the Installation section for more detailed instruction.</li></ul>
To better plan and design your installation...	<ul style="list-style-type: none"><li>• Read and complete the worksheets in the Planning and Engineering section.</li><li>• Add the Introduction to your reading list.</li></ul>
If you have an existing PRSS installation...	<ul style="list-style-type: none"><li>• Read the specially marked "Upgrade" notices throughout the manual.</li></ul>

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The following markers call your attention to information of special importance.



**This marker indicates information that might be critical to a successful installation.**



**This marker is present in sections that apply to an upgrade to a pre-existing (e.g., SOSS) set-up. New installations should ignore sections with this marker.**

## Getting Help

If you still have questions after reading this manual, or wish to offer assistance to other stations, please contact the PRSS Help Desk.

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### How to get help from the PRSS Help Desk

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- Website: [www.prss.org](http://www.prss.org)
  - Email: [prsshel@npr.org](mailto:prsshel@npr.org)
  - Telephone: 800.971.7677
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## Quick Start

The following procedure provides an overview of the installation and enough instruction to complete a basic installation. If you need more detailed instructions or guidance planning your installation, please read the rest of this guide.

### Procedure 1. Quick Start

Step	Instruction	Comments
1	Ensure that the L-band feed into the equipment rack has three open ports.	If you need more ports, install the supplied 8-port L-band splitter. Of course, choose the least disruptive time for a service interruption. See "Step 3, Prepare RF System" in the Installation and Configuration section for more detail.
2	Install one storage receiver (IDC SFX2100R) and the two stream decoders (IDC SR2000pro) into the rack.	Ensure that you have at least one rack space above and below <b>each</b> unit, and sufficient AC power nearby. See the Planning and Engineering section for information about installing both devices.
3	Connect the L-band feed to all three devices.	
4	Power-up the storage receiver and stream decoders.	Wait until the green "control" (SFX) and "status" (SR2000pro) LEDs light.
5	As required, configure the Ethernet ports on the storage receiver to work with your existing production Local Area Network (LAN). The username and password required to configure the receivers will be sent to you via email. Follow these steps:	You may skip this step if ANY of the following are true: <ul style="list-style-type: none"> <li>• You received the basic automation system from ENCO.</li> <li>• The preconfigured settings work with your existing automation system.</li> <li>• You would prefer to change the network settings in the automation system.</li> </ul>
5.1	<ul style="list-style-type: none"> <li>• Connect a locally-supplied keyboard, mouse, and monitor to the corresponding ports on the rear of the unit.</li> <li>• Alternatively, connect the storage receiver (port NET 2) and an Ethernet-ready local workstation on the 192.168.1.1/24 network. Then, navigate to <a href="http://192.168.1.101">http://192.168.1.101</a> using a web browser.</li> </ul> <p>The receiver's start page displays automatically as the receiver boots.</p>	The pre-configured network settings for the storage receiver are as follows: <ul style="list-style-type: none"> <li>• NET 1 IP address: 192.168.29.51</li> <li>• NET 2 IP address: 192.168.1.101</li> <li>• Workgroup = ContentDepot</li> </ul>
5.2	<ul style="list-style-type: none"> <li>• Select SFX Cockpit, and then the "Identity" link.</li> </ul>	
5.3	<ul style="list-style-type: none"> <li>• As required, change the IP address, netmask, gateway address, and windows workgroup.</li> </ul>	
6	Assemble the ENCO automation system. -OR- Ensure that your station's automation system will operate with the ContentDepot. Check the PRSS website for a list of compatible products.	The ENCO basic automation system is already set up to operate with the ContentDepot. Your existing automation system, even if compatible, might require some changes to its network settings.
7	Connect the NET 1 interface of the storage receiver to the same LAN segment as the automation workstation(s).	For the most basic network configuration, simply plug one end of the supplied cross-over Ethernet cable into the NET 1 port on the rear of the storage receiver, and plug the other end into the Ethernet port of the automation workstation.
8	If you are using an existing, compliant automation system, map the appropriate storage receiver drive as a network drive on	The ENCO basic automation system is preconfigured with the appropriate drive and folder mapping.

## ContentDepot Installation Guide

### Procedure 1. Quick Start

Step	Instruction	Comments
	your automation workstation using the appropriate drive letter.	
9	If not already done, subscribe to at least one pre-recorded and one live test program on the ContentDepot web portal.	The portal should already have the basic information about your station and its equipment. Contact your station's local ContentDepot administrator if you require a login.

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# 1. Introduction

This section introduces the PRSS<sup>®</sup> ContentDepot<sup>®</sup>, provides an overview of how it works, and briefly describes the components that comprise the system.

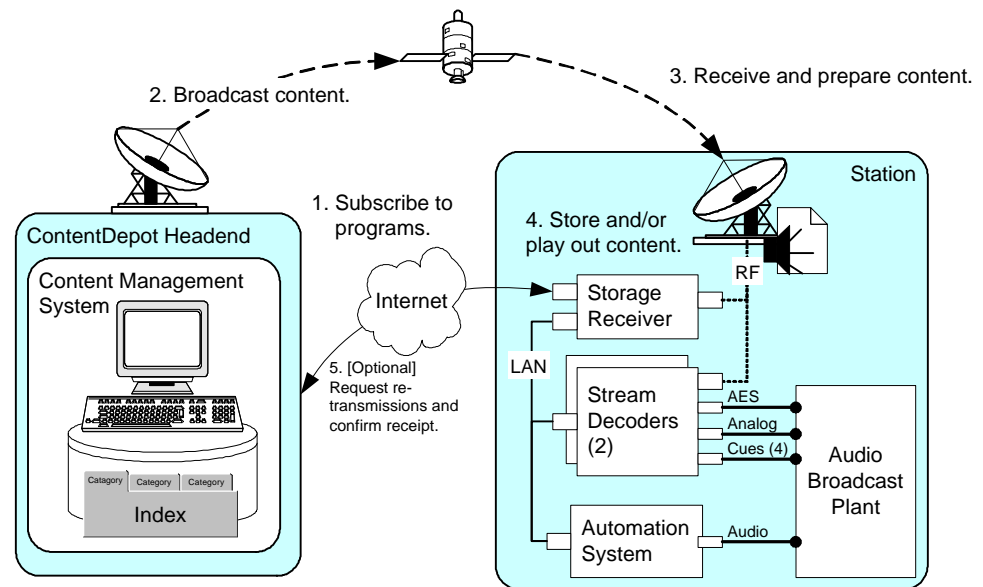
## The Next-Generation Public Radio Satellite System<sup>®</sup>

The ContentDepot is a streamlined, computer-based system for managing the delivery, storage, and broadcast of content for the Public Radio Satellite System (PRSS). It is part of the continuing evolution of distribution technology for delivering programming and information to public radio stations. It represents an upgrade of functionality and equipment, founded on new requirements and technological opportunities that improve PRSS operations.

The ContentDepot comprises a collection of integrated business processes, IT systems, and components to support the next generation of content delivery:

- The ContentDepot web portal, for registering your station and subscribing to programs
- Headend components, which facilitate distribution of the entire PRSS transmission schedule and remotely control the satellite receivers at the stations
- Station installation, including a compatible automation system and satellite receivers, for storage and streaming

The following figure shows a high-level view of the ContentDepot from the station perspective.



This manual focuses on installing the equipment that enables the following:

- One-way transmission of programming from the headend to stations
- Transfer of programming from the receivers to the automation system
- Payout of programming from the stream decoders and automation system to the local broadcast plant (or interconnect hosts of the local network)
- An Internet connection that enables subscribing to programs and optionally provides a backchannel for acknowledgements and re-transmissions



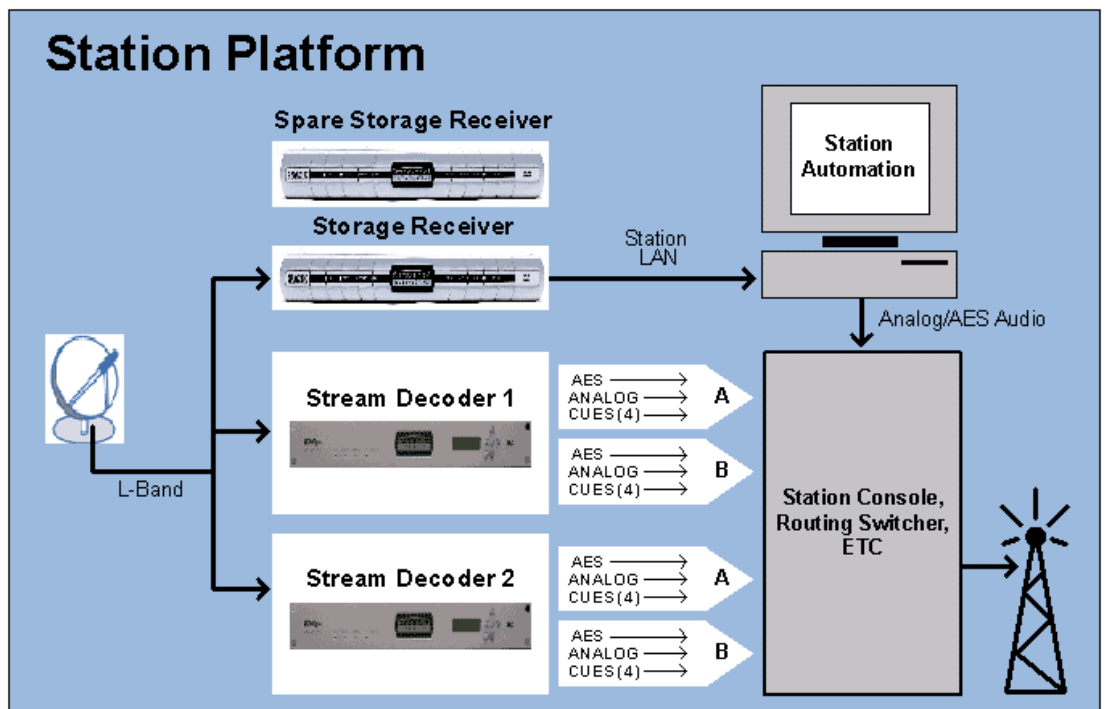
## Equipment Summary

The ContentDepot is an integrated set of commercially-available products that form a computer-based management and control system for PRSS operations. This section introduces the equipment that you will install at your station.

What equipment will I install for the ContentDepot?

Equipment	Description	
<b>Supplied by PRSS</b>	(2) IDC SFX2100R storage receivers	Receives and stores content. One is the primary; the other is a spare to cover failures.
	(2) IDC SR2000pro stream decoders	Each receives live programming from the satellite antenna, decodes it, and streams it out to local station consoles or routers. Each unit has two stereo outputs.
	ENCO basic station automation system [optional]	Provided to eligible stations prior to the initial ContentDepot rollout.
	L-band splitter	8-port splitter to accommodate the two stream decoders, the storage receiver, and parallel operation (if required).
Cross-over Ethernet cable	Enables communication between the storage receiver and a PC, for browser-based configuration.	
Local network equipment and cables [not part of equipment package]	Enable connection to your IP/Ethernet Local Area Network (LAN). A network firewall is strongly recommended.	

The following figure shows a generic ContentDepot platform at a station.



## Mapping SOSS Functions to the ContentDepot



**All stations that use the SOSS must convert to the ContentDepot. The ContentDepot accommodates (and improves on) all SOSS functions. After final cut-over, you may save or dispose of the SOSS gear. DO NOT RETURN it to PRSS.**

The combination of satellite receivers (for storage and streaming) and the station automation system will replace all of the functions of the SOSS, as follows.

How does the new system accomplish what the old system did?

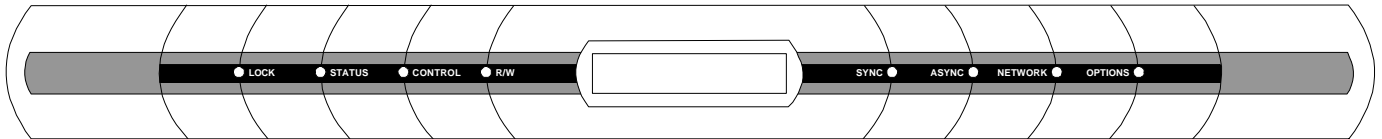
SOSS components and functions	Replaced by...
<ul style="list-style-type: none"> <li>• 2 downconverters</li> <li>• 2 IF bus selectors</li> <li>• 7 Comstream ABR-700 demodulators (one for the control stream; six for program sources)</li> <li>• Serial Control Bus (SCB) commands to tune demodulators</li> <li>• SOSS computer (OS/2)</li> <li>• Collection of Audio Recording Automation (ARA) software modules</li> <li>• General Purpose Interfaces (GPI) as standalone units, controlled over the SCB</li> <li>• Clocks</li> <li>• Tone decoders</li> </ul>	<ul style="list-style-type: none"> <li>• None. L-band directly from LNB.</li> <li>• None. No transponder selection needed.</li> <li>• Storage receiver and two streaming decoders. Programs destined for recording are stored as files automatically in the storage receiver. The stream decoders each have two stereo outputs.</li> <li>• Commands sent from headend, embedded in content feed, tune station receivers to the correct audio stream.</li> <li>• An IP/Ethernet LAN is the communications backbone of the station platform used for file and information transfer.</li> <li>• Most functions replaced by existing station automation or PRSS-supplied automation system.</li> <li>• ContentDepot-compliant automation systems handle local automation and playback.</li> <li>• Web-based portal enables subscription, resource assignment, and automation.</li> <li>• Portal handles messaging.</li> <li>• Schedule capture is not necessary; the portal provides schedule.</li> <li>• GPI not necessary for many functions.</li> <li>• Still an option for streaming from the receivers, but located on the stream decoders themselves.</li> <li>• Network Time Protocol (NTP) servers embedded within the storage receiver.</li> <li>• None used. Cues are non-audible.</li> </ul>

## Storage Receivers

A storage receiver is used to capture pre-recorded programming for later playout by the local automation system or transfer to another host on the local network. The active storage receiver accepts content files addressed to it, and stores them until they are copied into the station's automation system for future use.

Each station receives two SFX2100R Satellite Receiver Appliances from International Datacasting Corporation (IDC). The station designates one as active and the other as a backup. The SFX is a multi-functional device that tunes to the appropriate shared satellite carrier, handles multiple Digital Video Broadcast (DVB) channels, routes and filters IP/Ethernet multicast traffic, and stores content files in an accessible, industry-standard file/folders system.

The device occupies one rack unit. It has several status LEDs on the front panel, and a variety of industry-standard interfaces on the rear panel. The following figure shows the SFX2100R front panel. For more information, refer to the manufacturer's documentation.

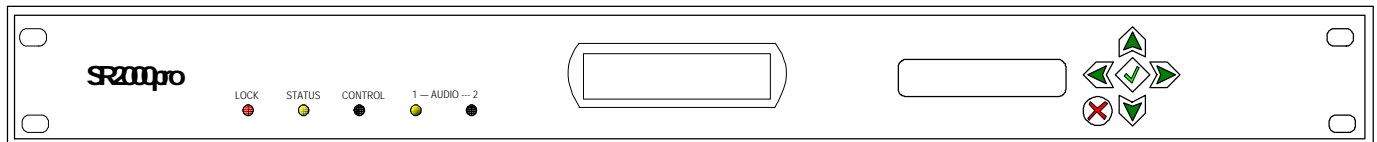


## Stream Decoders

A stream decoder is used to provide live programs and cues to a station's audio devices. It does not store audio.

Each station receives two SR2000pro Series SuperFlex Satellite Audio Appliances, from IDC. The SR2000pro is a rack-mountable (one rack space tall), multi-functional device. It tunes to the appropriate shared satellite carrier, handles multiple DVB channels, and decodes MP2 audio streams to analog and AES/EBU digital audio.

The SR2000pro can tune to two separate IP audio streams on the same DVB carrier, and supports two audio outputs, each comprising a balanced stereo analog audio pair, an AES3 stereo digital audio output, a balanced 9-pin analog connection, and eight GPO relay outputs (four assigned to each audio output). It is configurable from the front panel, a web browser (via its Ethernet interface), or a serial terminal. The following figure shows the SR2000pro front panel. For more information, refer to the manufacturer's documentation, provided with the units.



## Automation System

During initial rollout, some stations that do not have a compatible automation system will receive a basic automation system, built by ENCO. This system includes a one rack unit tall PC with a professional audio card, having a stereo set of balanced analog outputs.

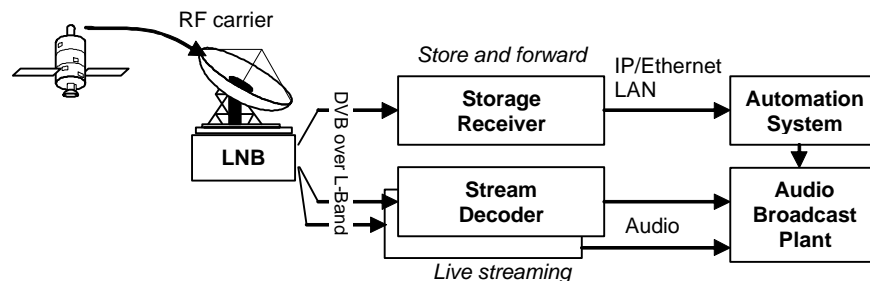
## Concept of Operations

To provide a better understanding of the equipment that you will install and configure, this section describes the underlying principles of the ContentDepot.

### How a Satellite Carrier Delivers Content in the ContentDepot

The downstream satellite signal to the station is an RF carrier that uses Digital Video Broadcast (DVB) technology to aggregate audio channels (containing streams and program files) and to modulate the carrier. Each channel contains an IP/Ethernet multicast channel that contains encoded audio.

The following figure and descriptions summarize how the satellite feed becomes audio content at the station.



From left to right, generally:

#### RF Input

The L-band RF from the antenna contains the broadcast stream from the headend.

#### DVB Channels

The receivers demodulate the carrier signal into DVB, identify distinct DVB Program Identifiers (PID), and filter out those not subscribed to by the station. Each PID represents an audio stream or a program file in transit.

#### IP/Ethernet Interface

Using IP/Ethernet multicast, the receiver then forwards the subscribed programming onto the local network interface and re-assembles the packets.

#### Storage Receiver

The storage receiver reconstructs and stores the original data files (.WAV extension), which the automation system will retrieve over the production LAN.

#### Stream Decoders

In real time, the stream decoders decode the resulting Layer 2 audio and play out that audio to the broadcast plant.

## Program Distribution

The process for distributing programming from the headend to the digital audio receivers at the station is characterized by these major features:

- Subscription-based. To receive a program, a station must subscribe to it using the web-based ContentDepot portal.
- File-based. Recorded programs are broadcast to the stations as files.
- Automation-enabled. A ContentDepot-compliant automation system handles the schedule, local distribution, and playout of program files.

## About Metadata

In the ContentDepot, *metadata* describes various aspects of the audio content. The ContentDepot relies heavily on metadata to manage and share programming, including the following:

The ContentDepot uses metadata to...

Usage	Description
Index and catalog content	Metadata provides a richer, more expressive, and generally more useful way to catalog programming. Properties that producers fill in to describe each piece of content include description, subject heading, file format, author/producer, and broadcast rights. Enables a station to search, retrieve, and browse content.
Subscription	Stations only receive what they request. Also enables producers to gather usage information.
Automation	Provides the machine interface that enables the local automation system, headend, and receivers to interoperate.

For more information about metadata, visit the ContentDepot website at [www.prss.org](http://www.prss.org).

## Subscription Model

The ContentDepot uses subscriptions to distribute programs to stations, as follows:

- Stations select the programs that they wish to receive, and will receive only those programs to which they have subscribed.
- Only the receivers that a station assigns to a program subscription will be able to receive that program.
- A subscription includes episodes, promos, rundowns, and web modules.
- This process provides usage data back to the producer.
- Subscriptions at a series level automatically subscribe the station to all episodes of that series.

## Automation at the Station

For pre-recorded content, a storage receiver automatically captures program audio files, and stores them in a directory on the receiver's hard drive. At designated times—typically every few seconds or minutes—the automation system retrieves content from the storage receiver for playout. Once a program is stored on the receiver, the local automation system and any other host on the local network can access the file. (Access to files on the local network depends on generally known network security limitations and the program's lifetime, as described below).

For live content (the programs that are intended for immediate delivery), stream decoders convert IP multicast packets into analog and digital audio and provide cueing closures.

## Reporting Delivery Status and Handling Delivery Errors

Each file will be sent from the Network Operations Center (NOC) to the receiver a number of times to mitigate against any outages of the delivery system. If connected to the Internet, the storage receivers may report receipt of programs and may report missed or corrupt parts of program files to the headend. Subsequently, the headend automatically delivers the replacement packets to complete the program file, and therefore make it available for use.

## Files on the Storage Receiver

In the ContentDepot, files are stored as Broadcast Wave Format files (WAV files). When the storage receiver receives a file, it stores it on its internal hard disk. Filenames can be up to 19 characters long (including separator characters) and have the following naming convention:

*<programName>\_<episode#>\_<type><##>.WAV*

Where:

*programName* is the unique identifier for the program within the ContentDepot (eight characters).

*episode#* is a three-digit sequential number of this episode, in a series.

*Type* is a four-character indicator that describes the content file. For example, "SGMT" indicates the file is a program segment.

*##* is a two-digit sequential number given to a particular segment of the program, as described below.

A file remains on the storage receiver's hard drive until the ContentDepot system automatically purges it. Purging is triggered to take place 24 hours after the last air date for the program as described in its metadata, or 180 days after delivery, whichever is earlier.

Producers may submit pre-recorded programs in segments, for station insertions, newscasts, and the like. Each segment is sent and stored as a separate file. So, a pre-recorded program can actually come to the station as a series of files. The local automation system assembles the related segments for playback. Here is an example for *St. Paul Sunday*:

How do segment files appear in the filesystem?

Segment #	Filename	Duration	Description
Segment 1	STPAULSU_001_SGMT01.WAV	00:33:40	Program open to ID break
Segment 2	STPAULSU_001_SGMT02.WAV	00:25:14	ID break to program close

## Remote Control

Using a secure remote control system integrated into the receivers, the headend can set and control several functions of the receivers. Generally, the headend will send commands to your receivers to select program streams.



## 2. Planning and Engineering

This section contains all the information you need to design and prepare for the installation of the ContentDepot equipment. Spend time now planning the most effective and efficient installation of the system. Without proper planning, you risk having to make time-consuming changes that might interrupt station service.

The headings within this section address particular issues that might affect your station. Generally, stations that have a pre-existing PRSS setup, or which have broader requirements for file sharing, will have more installation considerations.

Within this section are several worksheets that will provide information for the installation and configuration procedures. These worksheets will also be helpful in the future as they record the station's configuration.

---

### Personnel

Ensure that your station has the skills to accomplish the following tasks. If you require assistance, contact PRSS.

- Register the station profile and maintain user accounts on the ContentDepot portal. Identify someone at your station who will be the administrator for the ContentDepot portal. This administrator will be responsible for maintaining user accounts for the station and will be a primary point of contact for PRSS.
- Determine the best way to migrate from any pre-existing reception system.
- Rack-mount (or otherwise set up) the gear.
- Apply power to the equipment.
- Design and configure an IP-over-Ethernet local production network.
- Design and configure an appropriate information security model (to include issues such as firewalls and isolation) for the gear exposed to the production network.
- Connect coaxial and/or Ethernet cables.
- Assemble the basic PC-based automation system, if supplied.

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### Service Continuity

Plan the installation so that you will have minimal interruptions at your station. Check with the operations staff to find appropriate times to make changes in your receive system. At most stations, there will be a short outage period—for both the ComStream ABR700 receivers and the new ContentDepot equipment—needed to install the new 8-port L-band splitter. Be sure that you will not interrupt on-air programming.



**The following steps are necessary only if you are replacing a SOSS installation.**

As stations initially receive and deploy the ContentDepot system, there will be a period of parallel operations during which both the SOSS and ContentDepot platforms will operate and be supported. Operation and support of the SOSS, including the ABR700s, will discontinue following the ContentDepot transition. Plan to keep your existing demodulators connected through the end of parallel operations, as a backup. Each station will have to determine when to make the final cutover and remove the SOSS gear.



## L-band Connection

Complete the following worksheet to record the RF connections to your equipment.

Worksheet 1. L-band connections at the splitter

Destination Device	Splitter Port # (or label)	Comments about the run
Storage receiver		
Stream decoder #1		
Stream decoder #2		
Optional backup storage receiver		
SOSS transponder "A" downconverter		
SOSS transponder "B" downconverter		



**The new system uses an L-band interconnection directly from the LNB to the receivers. After you are fully operating on the ContentDepot receivers, you will not need the separate downconverters supplied with the ComStream ABR700 receivers. If your station is not otherwise feeding L-band to the equipment rack, contact the PRSS Help Desk about the Earth Terminal Refurbishment Project (ETRP).**

**The supplied 8-port L-band splitter supports up to five cable segments for parallel operation of the old system, if necessary.**

## Should I Install One Storage Receiver or Two?



**If you install a second storage receiver, you *must* set its IP addressing to be compatible with your network setup.**

A basic ContentDepot station installation requires only one operational storage receiver. In most cases, there is no need to install your second receiver; it's intended to be a cold spare, kept in local storage, in case the in-service one fails. Remember that storage receivers are for caching content, not for long-term storage. Make sure that your automation system is configured to retrieve content from the storage receiver frequently, so that a receiver failure has minimal impact on your local operation.

Some manufacturers of automation systems have developed interface applications for the ContentDepot that can ingest files from multiple storage receivers, thus providing an automatic backup in case a receiver fails. If your automation system has this capability, and you have enough rack space and AC power, you may want to install both storage receivers. If installing a second storage receiver, take the same precautions that you did for the primary receiver, to reduce its vulnerability to lightning, failures, network intrusions, etc.

## Capacity

The ContentDepot receivers are capable of receiving up to a full transponder's worth of data—in any combination of streams or files—leaving room for growth. The two stream decoders have a total of four stereo outputs. The storage receiver's hard disk will handle about 900 hours of audio content. Should your station require additional receivers, it may purchase them through PRSS.

## Layout

The following table lists some considerations for arranging your equipment.

Considerations for arranging your equipment

Topic	Discussion
Noise	The stream decoders have no fans; thus, you can place them in quiet areas. The automation PC and storage receiver should be in a location where the fan noise will not affect the audio quality.
Rack space	Make sure that you have enough rack space for at least three devices, considering that each receiver/decoder requires at least one rack space above and below it, for proper ventilation. The three devices require a minimum of five rack spaces (if one receiver is at the top or bottom of the rack), six rack units otherwise. If you will be receiving a basic automation system, make sure you have enough rack space for the computer (one rack unit).
L-band feed	Make sure that the rack location allows comfortable ingress of the L-band cables from the antenna.
Automation workstation	Make sure that there is nearby desk space for the monitor and keyboard of the automation system.
Power	Make sure that you have enough AC outlets for your receivers, decoders, and automation system.

## Power

The following table identifies the power requirements for the receivers and decoders.

Power requirements for the receivers

Receiver	Max power supply rating	Max power draw (peak)
SFX2100R (storage receiver)	150 Watts	78 Watts
SR2000pro (stream decoder)	25 Watts	15.5 Watts
ENCO DADpro32	250 Watts	150 Watts

PRSS strongly recommends that you add an Uninterruptible Power Supply (UPS) for all ContentDepot equipment. Like most modern electronic equipment, the receivers are microprocessor-based devices that can be sensitive to power fluctuations and outages.

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## Automation System

The ContentDepot requires an automation system at your station that is compatible with the ContentDepot's operating procedures and message set. The fundamental requirements for a compatible automation system include the following.

What are the requirements for an automation system?

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- |                     |  |
|---------------------|--|
| Software automation | <ul style="list-style-type: none"><li>• Decode and play MPEG 1, Layer II audio</li><li>• Automatically repeat a playout schedule</li><li>• Automatically import/convert audio files from a network-viewable folder (on the storage receiver)</li></ul> |
| PC                  | <ul style="list-style-type: none"><li>• Professional audio card, with two balanced analog outputs</li><li>• Ethernet 100Base-T port</li></ul>  |
- 

If your station already has a high quality, commercial broadcast automation system, NPR Distribution has most probably worked with the vendor to provide an interface to the ContentDepot. If you are not sure whether your automation system will work with the ContentDepot, or if your automation software requires a patch, contact your vendor.

If you are interested in seeing more detail about the interface between the ContentDepot storage receivers and station automation systems, download the “PRSS ContentDepot Station Automation Interfaces” document from [www.prss.org](http://www.prss.org).<sup>1</sup>

If your station does not have a compatible automation system, NPR Distribution provided a basic automation system, in the form of a pre-configured rack-mountable PC.

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## Local Area Networks



**Appropriate LAN engineering and security practices are critical to the success of your installation. Protect the hosts from intrusion and unintended access from inside and outside the local network. The most fundamental precautions include the following:**

- **Physically isolate the production LAN.**
- **DO NOT put NET 2 of the storage receiver on the production LAN.**

The ContentDepot installation requires integration into a network called the production LAN. All the receivers are pre-configured for network operation. The network settings on the receivers need to be compatible with those of the automation system and any other hosts you plan to include on the production LAN. If the defaults on the receivers do not match your existing ones, you must change the settings on either the receiver or the other hosts on the LAN. Primarily, this network enables the storage receiver to forward content files to the automation system. The storage receivers support an additional network connection to enable file repair and confirmation via the backchannel and file sharing within the station.

To support the simplest network configuration (storage receiver-to-automation system), PRSS sent you a cross-over Ethernet cable. Of course, if your automation workstation is currently on a LAN, you will require a LAN switch (100Base-T Ethernet or better) to integrate with the storage receiver. The following worksheet provides the pre-configured network settings for the receivers. Use this worksheet to design the most suitable LAN addressing scheme for your site.

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<sup>1</sup> Automation vendors received this document as specifications for developing their interfaces to the ContentDepot receivers.

## Worksheet 2. Host addresses

Device/ Interface	Connects to (device/port)	Description	Address/Netmask (or DHCP)	Windows workgroup
Storage receiver/ NET 1		Production network. Enables file transfer to automation system	192.168.29.51/255.255.255.0 (default)	ContentDepot (default)
Storage receiver / NET 2		Connection to station business LAN/outside world **	192.168.1.101/255.255.255.0 (default)	
Backup Storage Receiver / NET 1		Optional for the production network. Enables file transfer to automation systems that can ingest files from more than one device	192.168.29.51/255.255.255.0 (default) *	
Backup Storage Receiver / NET 2		Optional. For connection to station business LAN/outside world **	192.168.1.101/255.255.255.0 (default) *	
Automation system / [                    ]		Production network		
Automation system / [                    ]				

## Notes:

\* IP address must be changed before connecting to a production LAN.

\*\* A firewall between receiver and external networks is strongly recommended.

## File Sharing

The storage receiver stores all files addressed to your station on an internal hard drive. The storage receiver runs the Linux Operating System (OS), and employs a network service called Samba to make this directory accessible as a folder on the Windows-based automation system (and other Windows hosts on the LAN).

Many automation systems use particular file naming conventions to identify program files. To accommodate the most popular automation systems, each file is placed in ContentDepot storage receivers with filename links into two separate directories. (A link is similar to a shortcut in Windows or an alias on a Macintosh.) One directory has long filenames (19-character name + .wav) that include the program name, episode number and segment number; another directory has filenames that are based on the CutID number (five digits+ .wav). Check with your automation vendor to find out which directory your automation system will need to examine to extract files.)

The following table provides the information for setting up file sharing with the automation workstation.

## Specs for file sharing

Feature	Description	Default setting
Windows workgroup	Enables file sharing between workstations on the same network.	ContentDepot
Directory for parse filename	Stores files for automation systems that can use/parse the 19-character ContentDepot filenames.	/data/xdcache/CDLongname shared as "CDLongname"

Specs for file sharing

Feature	Description	Default setting
Directory for parse cut	Stores files for automation systems that must use shorter filenames.	/data/xdcache/CDCutID shared as "CDCutID"

Refer to your automation system’s documentation to determine which program directory you should map to for file sharing, or check with the vendor. For more information about file locations, file naming, and metadata structure in ContentDepot files, refer to the Station Automation System (SAS) interface documents available at [www.prss.org](http://www.prss.org).

## Internet Connection

Internet access enables stations to take full advantage of the ContentDepot. The type of Internet access you need depends on the features that you want. Use the following table as a guide to acquiring the Internet access that suits your needs. Stations without Internet access should contact PRSS for assistance.

Requirements for Internet access

Feature	Description	Device	Recommend
ContentDepot web portal	Stations use the portal to register a station profile and subscribe to programming.	Administrator's workstation	Dial-up or better
Back channel	Confirm receipt. Retrieve lost packets for files that are damaged or incomplete. This service will not be available with the initial release.	Storage receiver	Broadband, always on

## Local Broadcast Plant and Cueing

Each of the SR2000pro stream decoders supports two audio channels. For each of the two audio channels, three outputs are simultaneously present on the back of the decoder: stereo analog (L and R), stereo AES digital (AES), or 9-pin D-type balanced audio. You can also use the four sets of relays on the terminal block to signal station audio devices. Refer to the SR2000pro installation guide for connector and pinout specifications.

As of this writing, program producers are reviewing their program clocks to determine when the various cues are activated in programs. Check with your program producers for more information about program formats.

Worksheet 3. Audio and relay connections from the stream decoders to the broadcast plant

Device	Output	Destination Device/Port	Comments
SR2000pro stream decoder #1	Stereo analog (L and R)		TA3 connectors
	Digital (AES)		TA3 connector
	Balanced audio 9-pin D-type		Fully compatible with the ComStream audio pinouts
	Terminal block 1: NO, COM, NC		Start of segment
	Terminal block 2: NO, COM, NC		Cutaway A
	Terminal block 3: NO, COM, NC		Cutaway B
	Terminal block 4: NO, COM, NC		End of program
SR2000pro stream decoder #2	Stereo analog (L and R)		TA3 connectors
	Digital (AES)		TA3 connector
	Balanced audio 9-pin D-type		Fully compatible with the ComStream audio pinouts
	Terminal block 1: NO, COM, NC		Start of segment
	Terminal block 2: NO, COM, NC		Cutaway A
	Terminal block 3: NO, COM, NC		Cutaway B
	Terminal block 4: NO, COM, NC		End of program

## Time Sync and SquawkNET



The following steps are necessary only if you are replacing a SOSS installation.

To maintain time synchronization, the ContentDepot delivers Network Time Protocol (NTP—a standardized, IP-based protocol (RFC 1305, et al)—to the receivers. LAN-connected workstations and systems can retrieve time messages from the storage receiver. Alternately, you may provide your own local GPS or other high-accuracy time server (using NTP). NTP will NOT work with the SOSS-proprietary SCB time packet, nor will PRSS support it after the period of parallel operation. Some devices currently at stations—like SOSS-based time-of-day displays—will not work with the ContentDepot receivers.

The ContentDepot has no significant impact on the SquawkNET tone decoders for breaking news. If your installation currently supports SquawkNET, you can use the existing equipment and switching logic to accommodate it.



### 3. Installation and Configuration

Installation of the ContentDepot station platform focuses on these major topics:

- Connecting the L-band satellite feed to the satellite receivers
- Installing the equipment into racks
- Installing and configuring the Local Area Network (LAN) and IP addresses of the connected devices
- Assembling the basic automation system, if supplied

#### Step 1 General Preparation

The ContentDepot equipment package might include more than one shipment. All stations will receive a shipment of receivers from International Datacasting Corporation (IDC). For basic automation, some stations will also receive a shipment from ENCO Systems. As you receive the packages, do the following:

Procedure 2. Preparing for the installation

Step	Instruction
1	Inspect the deliveries to ensure that you received the appropriate equipment and that it is undamaged. Save the carton and packing materials in case you ever need to send the unit back to the Satellite Facilities Depot for repair.
2	Take inventory. Ensure that it matches the equipment you need, based on the station survey.
3	Acknowledge receipt of the ContentDepot equipment by returning the equipment receipt acknowledgement form.
4	Gather the tools and materials listed in the following table.

Table 1. Tools and materials

Topic	Item Description
General	<ul style="list-style-type: none"> <li>• Screwdrivers (assorted flat-blade and Philips)</li> </ul>
Rack mounting	<ul style="list-style-type: none"> <li>• Rack screws</li> <li>• Blank panels</li> <li>• Cable dressing materials</li> </ul>
RF receive	<ul style="list-style-type: none"> <li>• L-band splitter (an 8-port splitter supplied by the PRSS).</li> <li>• Cables – 4x L-band (splitter-splitter, splitter-receivers)</li> </ul>
LAN	<ul style="list-style-type: none"> <li>• 8-port switch</li> <li>• Cables – 5x Cat5 (or higher) – SFX&gt;outside, receivers&gt;switch, Automation&gt;switch</li> </ul>
Audio	<p>Appropriate audio connectors for interfacing receivers and automation system to the audio plant:</p> <ul style="list-style-type: none"> <li>• Four ComStream-style female DB9 connectors, for 9-pin D-shape port</li> <li>• Four TA3 female connectors (or TA3FL, for larger-diameter cables), for AES digital output</li> <li>• Eight female TA3 connectors (or TA3FL, for larger-diameter cables), for balanced audio output</li> </ul>
Cueing	<p>General purpose wire, sufficient to cue from contact closures to automation system or console. If you are already using cues from a third-party decoder (like 25Hz or MPR/PRI units), you would move the wires from those decoders to the stream decoder.</p>



## Step 2 Prepare Rack Space and Power

**Dependencies:** Complete this procedure before installing the satellite receivers.

**Tools and supplies:** Blank rack panels; rack screws; UPS; screwdrivers; electrical tools.

**Preconditions:** You've completed the rack space and rack power worksheets.

**End condition:** You have enough rack space and appropriate power supply for all the ContentDepot gear.



**If you are upgrading, but are NOT running parallel operations (not recommended):**  
 f Remove all SOSS equipment, including the ComStream demodulators

**If you have limited rack space, and plan to run parallel operations until verification and cut over:**  
 f Leave at least two ComStream demodulators and associated IFBS, two downconverters, and cables. You can remove all other SOSS gear.

**If you plan to run parallel operations until verification and cut over and have enough rack space for the new and existing equipment:**  
 f Leave all SOSS equipment in place until you're fully transitioned.

Procedure 2. Preparing rack space and power

Step	Instruction
1	Ensure that there is readily accessible power, sufficient to handle the load.
2	If you are rack-mounting the equipment, obtain a new rack or clear sufficient contiguous rack space: <ul style="list-style-type: none"> <li>• Seven spaces for minimal installation, without basic automation system</li> <li>• Nine spaces if you plan to install both storage receivers</li> <li>• Eleven rack spaces if you plan to install a basic automation system</li> </ul>
3	Set up a table or rack shelf nearby for a keyboard, video, and mouse.

## Step 3 Prepare RF System

**Dependencies:** Complete this procedure before installing the satellite receivers.

**Tools and supplies:** One 8-port L-band splitter (supplied); three coaxial cables with connectors (four cables if you plan to install both storage receivers); electrical tools

**Preconditions:** 1) You have an L-band feed coming from your satellite antenna. 2) You've completed the L-band connection worksheet.

**End condition:** The L-band input from the antenna is split into at least three segments: one for the storage receiver and one for each of the stream decoders.



**If your antenna is NOT feeding L-band directly from the LNB into the equipment racks, stop now and contact the PRSS help desk.**

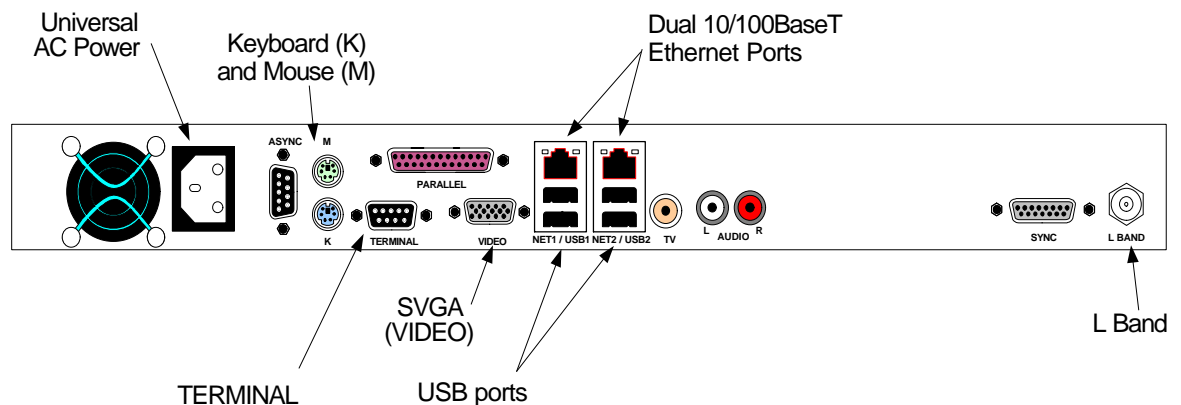
**If you have to disconnect your L-band receive system to install new splitters or cables, be careful to not interrupt currently active programs.**

## Procedure 3. Prepare your RF system

Step	Instruction
1	Identify the L-band coaxial cable coming from the antenna.
2	As required, disconnect the cable from any in-house devices and run into the rack that will hold the ContentDepot gear.
3	At the ingress to the rack, add the 8-port L-band splitter.
4	Reconnect existing SOSS equipment to the 8-port L-band splitter.

## Step 4 Install Storage Receiver

The following figure identifies the connectors on the rear panel of the SFX2100R, which you use to interface to the satellite feed, local broadcast plant, and local network.



**Notes:** A standard ContentDepot installation requires only one active storage receiver. If you intend to install both receivers (see the Planning and Engineering section), repeat the steps below, but do not connect the second receiver to your production LAN until you configure the Ethernet port with a non-default IP address.

**Tools and supplies:** Storage receiver; supplied AC power cord; mounting screws; screwdrivers.

**Preconditions:** The rack has three open rack units and an AC power outlet.

**End condition:** The storage receiver green “control” LED is flashing steadily. The unit is ready to receive programming.

## Procedure 4. Installing a storage receiver

Step	Instruction
1	Mount one storage receiver in your equipment rack. Make sure to leave one rack space above and below it for cooling.
2	Connect an L-band cable from your receive system to the L-band inlet.
3	Plug in the power cord to the unit and then to your AC power.
4	It will take a few minutes for the receiver to start up and to acquire the satellite channel. Ensure that the green “control” LED on the front panel flashes steadily.

## Step 5 Configure Network Settings for the Storage Receiver

The preconfigured network settings for the storage receiver are as follows:

- Windows workgroup = ContentDepot
- NET 1 IP Address/netmask = 192.168.29.51/255.255.255.0
- NET 2 IP Address/netmask = 192.168.1.101/255.255.255.0



**You may skip this procedure if ANY of the following are true:**

- You received the basic automation system from ENCO.
- The preconfigured settings work with your existing automation system.
- You would prefer to change the network settings in the automation system.

If you need to change these settings to enable LAN communications or file sharing, follow this procedure.

**Note:** The username and password required to configure the ContentDepot receivers will be sent to you via email.

**Tools and materials:** Any one of the following setups:

- A computer with an Ethernet port and either the supplied cross-over Ethernet cable or a LAN hub or switch and a regular Ethernet cable; web browser, Internet Explorer 5.5 SP2 (or better) or Netscape 7.1 (or better).
- Locally-supplied keyboard, mouse, and video monitor. Use this option if you do not have a computer with an Ethernet port available, or you do not want to change IP address of the local computer.

**Preconditions:** 1) You've completed the host addresses worksheet. 2) The green “control” LED on the front panel is flashing steadily.

**End condition:** The receiver is properly configured and attached to the production LAN.

Procedure 5. Configuring a storage receiver

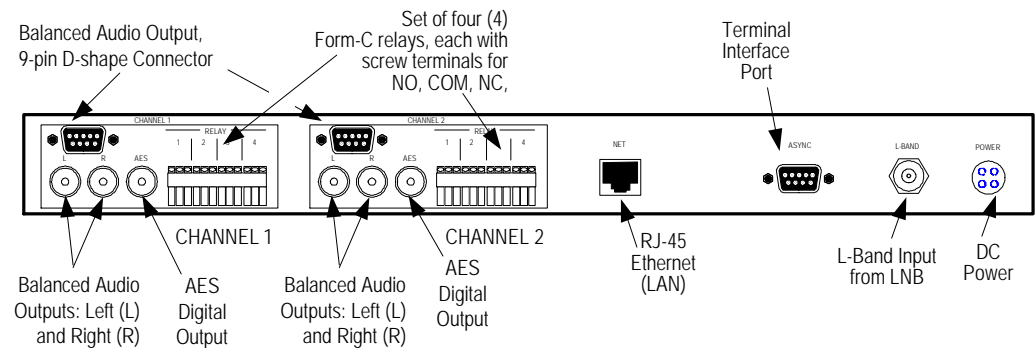
Step	Instruction
1	<p>Connect directly to the device using one of these methods:</p> <ul style="list-style-type: none"> <li>• Connect a locally-supplied keyboard, mouse, and monitor to the K, M, and VIDEO ports, respectively, on the rear of the unit.</li> <li>• If using a computer with an Ethernet connection:                             <ol style="list-style-type: none"> <li>a) On the computer, change the IP address for the Ethernet port. Choose any address in the 192.168.1.1/24 subnet.</li> <li>b) Connect the appropriate Ethernet cable to the computer and connect the other end to the NET 2 port on the receiver.</li> <li>c) Run a web browser and navigate to 192.168.1.101.</li> </ol> </li> </ul> <p>The ContentDepot main menu appears in a browser.</p>
2	Click on the SFX Cockpit link.
3	Select Identity to change the IP parameters.
4	Specify the IP address, netmask, and gateway address for this host in the production LAN. Refer to your host addresses worksheet.
5	Click on the <b>Send Update</b> button to accept your changes.

## Procedure 5. Configuring a storage receiver

Step	Instruction
6	Return to the ContentDepot main menu, and click on the <b>File Sharing</b> link, located beneath the Receiver Setup heading.
7	Specify the Windows workgroup or domain to match that of your automation system's workgroup name. The default here is ContentDepot.
8	Click on the <b>Send Update</b> button to accept your changes.
9	If you used KVM I/O devices or a generic workstation, disconnect the devices. If you changed the IP address on the workstation, you might need to change the IP address of the workstation to the previous setting. If you used the automation workstation for this procedure, and intend to keep this direct LAN connection between the two devices, you are done.

## Step 6 Install Stream Decoders

The following figure identifies the connectors on the rear panel of the SR2000pro, which you use to interface to the satellite feed, local broadcast plant, and local network.



Follow this procedure to install and connect each of your stream decoders:

**Tools and supplies:** Two SR2000pro stream decoders; two power supplies provided with the SR2000pros; the SR2000pro installation manual; mounting screws; screwdrivers; audio cables appropriate for the desired analog and digital formats.

**Preconditions:** 1) The rack has three open rack units and an AC power outlet. 2) You have completed the audio connections worksheet.

**End condition:** The stream decoders are ready for configuration. They will automatically begin playing the test satellite channels, if subscriptions for live feeds have already been entered by your station.

## Procedure 6. Installing the stream decoders

Step	Instruction
1	Mount the streaming decoder in your equipment rack. Make sure to leave one rack space above and below it, for cooling.
2	Connect an L-band cable leading from the antenna to the L-band inlet, on the rear of the receiver.
3	Plug the supplied AC power cord of the power supply into an AC outlet, and then plug the DC power connector of the power supply into the DC power inlet on the rear panel of the unit.

Procedure 6. Installing the stream decoders

Step	Instruction
	The "status" LED should light, and the front panel display should be lit and display an operational message. At this point, the unit will automatically begin to acquire the satellite signal.
4	<p>Connect audio cables to each of the decoder's two audio outputs, according to the audio connections worksheet.</p> <p>For each of the two audio channels, you can select one of these output types: stereo analog (L and R), stereo AES digital (AES), or 9-pin D-type balanced audio. For connector and pinout specifications, refer to the SR2000pro installation guide provided by the manufacturer.</p>
5	Label the unit on the front, giving it an identifiable name (such as "stream decoder #1").

## Step 7 Assemble the Automation System

If you received the ENCO basic automation system, set it up according to its supplied manual.

## Step 8 Connect the Production Local Area Network

**Dependencies:** You must complete this procedure before attempting to verify that the receivers can receive programming from the ContentDepot.

**Tools and supplies:**

- Supplied cross-over Ethernet cable, if not using a switch
- If using a LAN switch, an Ethernet (Cat 5) cable terminated with RJ-45 plugs, for each connected device

**Preconditions:** 1) The storage receiver and automation system are properly configured for network operation. 2) You have completed the network diagram and network addresses worksheets.

**End condition:** Each device on the LAN can communicate with the other devices on the LAN. As required, you can reconfigure the receivers from any workstation on the LAN.

Follow this procedure to interconnect devices on the production LAN and other local networks.

Procedure 7. Connecting to the production LAN

Step	Instruction
1	<b>[optional] Production LAN switch.</b> If you require a LAN switch, place it in a location that is convenient for moving connections and is near a power outlet. Plug the switch into the power outlet.
2	<b>Automation system.</b> If using a LAN switch, plug a standard Ethernet cable from the production LAN switch into the Ethernet port of the automation workstation. Otherwise, plug the supplied cross-over cable from the automation workstation to the NET1 port of the storage receiver.
3	<b>Storage receiver.</b> If using a LAN switch, plug a standard Ethernet cable from the NET1 port of the receiver to the LAN switch. Otherwise, skip this step.

## Step 9 Configure File Sharing

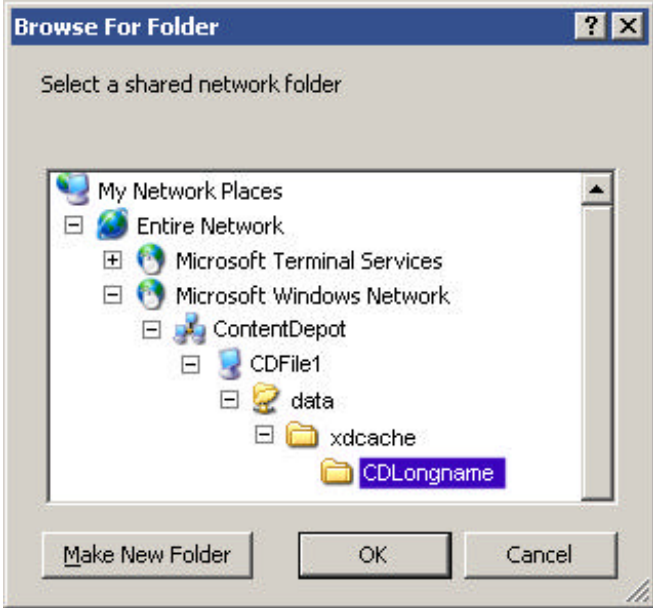


Skip this procedure if you receive the ENCO basic automation system. See the supplied basic automation documentation for detailed instructions.

**Preconditions:** The storage receiver and the automation system are on the same network and in the same Windows workgroup/domain.

**End condition:** The automation system can copy files from the storage receiver.

Procedure 8. Configuring file sharing on the automation system

Step	Instruction
1	From the desktop of the automation system, right-click over the <b>My Computer</b> icon and choose <b>Map Network Drive</b> . The Map Network Drive window appears.
2	In the <b>Drive</b> field, specify 'R:'.
3	Click on the <b>Browse</b> button. You see the <b>Browser for Folder</b> window.
4	Expand the folder tree, as shown below, to select the folder that is appropriate for your automation system: <ul style="list-style-type: none"> <li>• <b>CDLongname</b> for the ENCO and those systems that parse long (19 character) filenames</li> <li>• <b>CDCutID</b> for systems that parse filenames constructed from weekly cut numbers.</li> </ul>
	
5	Click on <b>OK</b> .
6	On the Map Network Drive window, click on <b>Finish</b> .
7	Set up your automation system to read files from drive R.



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## 4. System Checkout and Next Steps

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### System Checkout and Testing

You must test your new installation to make sure the ContentDepot equipment works properly before beginning full-scale operations. There is no reason to develop an elaborate test plan, but you need to be confident that the equipment works as expected, especially if you're interfacing an existing automation system to the ContentDepot storage receivers.

A minimum test complement should include subscribing to (and verifying) at least two streamed programs and at least two file-based programs.

To continue, you will need to register your station in the ContentDepot Portal (<http://www.prss.org>) and subscribe to stream and file programs. A separate ContentDepot user guide will provide complete information and procedures.



**Stations transitioning from SOSS to the ContentDepot will receive equipment prior to the availability of the ContentDepot portal. Therefore, subscriptions to programs and testing of your system cannot occur until the ContentDepot portal is available.**

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### For More Information

This installation guide is geared to a generic station installation, but the ContentDepot equipment is designed to integrate into a wide range of local networks. If you need more information, first refer to the IDC user guides and references delivered with the receivers.

You should also periodically visit the support site for the ContentDepot at [www.prss.org](http://www.prss.org) for FAQs, errata, and information about software updates and late-breaking news about the system.

Finally, technical support for the ContentDepot is available by email: [prsshelp@npr.org](mailto:prsshelp@npr.org) or by calling 800.971.7677.



## ContentDepot Installation Guide Errata Sheet (updated 07/04/06):

The following updates have been made to the ContentDepot installation procedures since publication of the installation guide. For additional assistance, please contact the PRSS Help Desk at 800.971.7677.

Page	Location	Comment
iii	Instruction Step 1	Substitute “four open ports” for “three open ports”.
iii	Instruction Step 2	Substitute “both storage receivers” for “one storage receiver”.
iii	Instruction Step 3	Substitute “all four devices” for “all three devices”.
iv	Instruction Step 9	Add to Comments: This step must be completed after the Portal starts operation; check with the ContentDepot administrator at your station or <a href="http://www.prss.org">www.prss.org</a> to see if the Portal is online. Sample streams and files that do not require subscription are being delivered to ContentDepot receivers until Portal startup.
7	Last bullet point on the page	Delete “and optionally provides a backchannel for acknowledgements and re-transmissions”.
7	Drawing	Remove Internet connection and text (“5. [optional] Request retransmissions and confirm receipt.”) between storage receivers and ContentDepot headend.
8	“Local network equipment” item	Revise “A network firewall is strongly recommended.” To read, “A good network firewall between your ContentDepot receivers and the Internet is strongly recommended. If your station is on a college campus, your firewall should be placed to protect your receivers from other computers on the campus.”
8	Drawing at bottom of page	Add L-band connection to spare storage receiver. Add connection from spare storage receiver to “Station LAN”.
16	Worksheet 1	Delete ‘Optional’ from “Optional backup storage receiver”.
16	Should I Install One Storage Receiver or Two?	<p>Replace entire section:</p> <p>Considerations for Primary and Backup Storage Receivers</p> <p>You have received two storage receivers registered to your station. Files delivered on the ContentDepot are addressed to both units, so it does not matter which one you connect to your automation system. In some cases, automation vendors have developed applications that can scan directories on multiple receivers to provide full backup for receiving files.</p> <p>You do not have to hand-delete files from either of your storage receivers; each file has a ‘kill date’ designating when it will be automatically deleted from receivers. In most cases, the ‘kill date’ is approximately a week after first delivery. This allows a receiver to self-manage its storage space to prevent ‘filling up’ with expired content.</p>

		<p>While connecting your second storage receiver to your local area network is not absolutely necessary to reliably receive files from the ContentDepot, you must at least connect your second receiver to AC power and L-band downlink; we are sending software updates for storage receivers often during the ContentDepot.</p> <p>If you do connect your second receiver to your LAN, you must set the IP address(es) so they do not conflict with your primary receiver. Be sure that your second receiver is as well-protected from lightning, power interruptions and network issues as your primary receiver.</p>
17	Layout – noise	Delete ‘quality’ from the last sentence.
17	Layout – rack space	Substitute “at least four devices” for “at least three devices”.
17	Layout – rack space	Substitute “The four devices” for “The three devices”.
17	Layout – rack space	Substitute “minimum of six rack spaces” for “minimum of five rack spaces”.
17	Layout – rack space	Substitute “seven rack units otherwise” for “six rack units otherwise”.
18	Local Area Networks	Remove last sentence of first paragraph (“The storage receivers support an additional network connection to enable file repair and . . .”)
18	Local Area Networks	<p>Add to existing text:</p> <p>Stream decoders do not need to be connected to a LAN at all to function properly. A planned enhancement to deliver HD Radio PAD/PSD data via program streams will use the network connection, but that enhancement will be some months before it’s ready for release.</p>
19	Specs for file sharing table: Directory for parse filename	Replace “/data/xdcache/CDLongname” with “/xdcache/CDLongname”.
20	Specs for file sharing table: Directory for parse cut	Replace “/data/xdcache/CDCutID” with “/xdcache/CDCutID”.
20	Internet Connection	Remove ‘Requirements for Internet access’ table.
20	Internet Connection	<p>Replace text with:</p> <p>You must have an Internet connection available to use the ContentDepot. Your ContentDepot administrator uses the ContentDepot Portal to subscribe to programs and get operational information. While dial-up access is minimally acceptable – and the Portal is constructed to support low-speed connections – a broadband connection (DSL, cable or campus connection) is preferred.</p> <p>ContentDepot receivers do not require a connection to the Internet to function properly.</p>
20	Local Broadcast Plant and Cueing	Substitute “two stereo audio streams” for “supports two audio channels”.
20	Local Broadcast Plant and Cueing	Add as second paragraph:

		<p>For more information about the TA3 audio connectors used on ContentDepot stream decoders, see <a href="http://www.prss.org">www.prss.org</a> (need page).</p>
21	Time Sync and SquawkNET:	<p>Add after first paragraph:</p> <p>The ContentDepot storage receivers are shipped with their NTP servers turned off to prevent problems as you're connecting the receivers to your production networks. You must actively decide how (and from where) you will set up time-of-day synchronization in your shop. Keep in mind that the master clocks at the NOC are not offset to accommodate satellite transit time for program production or time delivery, so the NTP servers in the ContentDepot storage receivers are slightly 'behind' GPS or USNO time as delivered by other paths -- and the stratum levels in the system are set to reflect that. In practice, that means a higher-stratum (presumably GPS or other high-spec sync) server will always 'win' over your ContentDepot storage receiver if there's any conflict in your NTP client.</p> <p>Take care to make sure your NTP clients are referring only to the server(s) you intend.</p> <p>Unlike the SOSS -- and following NTP standards -- time-of-day data is distributed in Coordinated Universal Time (UTC, in standards-ese). In other words, no time zone (or daylight saving) offsets are applied anywhere but at 'end' devices -- like your automation computers. The NTP servers in the ContentDepot storage receivers also run and deliver time information in UTC, so you may need to change offsets in your automation computers if they're expecting Eastern (or another time zone) time for synchronization. The offsets you see (and can set) in the ContentDepot storage receivers are only for the screens served up by the receivers and for logs on the receivers.</p> <p>To turn on the NTP servers in your storage receivers, do the following:</p> <ol style="list-style-type: none"> <li>1. From the web GUI, go to Configuration:Date&amp;Time.</li> <li>2. Select "edit" from the left navigation bar.</li> <li>3. Click the 'enabled' radio button at the bottom of the page.</li> <li>4. Enter the IP address of the port on the storage receiver you want to use for time services on your network. This will be the Net1 or Net2 IP address on that unit (this is a way to keep the time service localized in a multiple-network shop).</li> <li>5. Click 'send update', which should bring you back to the time&amp;date screen.</li> </ol> <p>The "NTP Client/Server" block should be green.</p>

23	General Preparation: table 1, LAN	Remove “SFX>outside,” change 5x to 4x.
24	Prepare Rack Space and Power, procedure 2	Add “see page 17 for power requirements” to Step 1.
24	Prepare Rack Space and Power, procedure 2	Replace first bullet point with: “Seven spaces for installations without basic automation”.
25	Procedure 3	Replace “identify” with “locate”
25	Install Storage Receivers, Notes	Remove entire ‘notes’ paragraph.
25	Install Storage Receivers, Preconditions	Substitute “five open rack units” for “three open rack units”.
25	Install Storage Receivers, procedure 4	<p>Replace Step 1 instruction with “Mount storage receivers in your equipment rack, making sure to leave at least one open rack space above, below and between the units.”</p> <p>For the ContentDepot rollout, the stream decoder with the lowest serial number is “Stream Decoder #1” at your station, the next lowest serial number is “Stream Decoder #2” – and so forth. Be sure to position the units in your rack in order</p>
25	Install Storage Receivers, procedure 4	Add to Step 4 instruction: The “status” LED should be either ‘orange’ or green.
27	Procedure 5	Add Step 10: Repeat steps 1-9 for your second storage receiver.
27	Procedure 6	Replace Step 1 instruction with “Mount stream decoders in your equipment rack, making sure to leave at least one open rack space above, below and between the units.”
28	Procedure 6	Add “(either green or orange is OK)” after “The ‘status’ LED should light”.
28	Connect the Production Local Area Network	Add “See page 16 for information about connecting one or both of your storage receivers to your production network” after the “End condition” item.
31	System Checkout and Testing	Add to the ‘upgrade’ box: Sample streams and files that do not require subscription are being delivered to ContentDepot receivers until Portal startup.