ADTRAN

PRACTICES

C A U T I O N !
SUBJECT TO ELECTROSTATIC DAMAGE
OR DECREASE IN RELIABILITY.
HANDLING PRECAUTIONS REQUIRED.

BR1/10 WALL MOUNT CHASSIS
INSTALLATION/MAINTENANCE

CONTENTS

FIGURES

TABLES

Figure 1. BR1/10 Wall Mount Chassis

1. GENERAL

This practice provides installation and maintenance procedures for the ADTRAN® BR1/10 Wall Mount Chassis. Figure 1 is an illustration of the BR1/10 Wall Mount Chassis.

Features

The BR1/10 Wall Mount Chassis, part number 1150219L1, features include:

• Compact design mounts easily to indoor walls

• Single T1 provides 10 ISDN Basic Rate Interfaces

• Operates with standard BR1/10 commons: BCU, LIU, and PAU

• May be line powered using the optional HDSL LIU (H-LIU)

• NEBS Level III compliant

Description
The ADTRAN BR1/10 Wall Mount Chassis is designed for extending Basic Rate ISDN services to a customer's premise or equipment closet. The chassis terminates a single T1 and provides mounting for one set of BR1/10 commons (BCU, LIU and PAU) and 10 U-BR1TE channel units. The compact, fold-down design of the unit allows quick-and-easy installation to most indoor walls. The assembly includes two components: an 11 inch BR1/10 chassis and a wall mounting bracket.

The BR1/10 Wall Mount Chassis backplane provides (1) 50-pin male amphenol connector, (13) 36-pin card

edge connectors, (1) three-terminal barrier strip, (1) two-terminal barrier strip, and (1) female DB-9 connector. The 50-pin male amphenol connector interfaces with the T/R and T1/R1 connections for each of the 10 channel slots. The (13) 36-pin card edge connectors are used for BR1/10 common equipment and channel units. The three-position terminal strip, labeled JP16, supplies power connections. The two-terminal barrier strip, labeled JP18, is for future enhancements.

2. INSTALLATION

After unpacking the unit, immediately inspect it for possible shipping damage. If damage is discovered, immediately file a claim with the carrier and then contact ADTRAN Customer Service (see Warranty and Customer Service).

Tools Needed
The ADTRAN BR1/10 Wall Mount Chassis includes a mounting template for installation on a 3/4" thick plywood surface which is secured to an existing wall. The unit is intended only for indoor use. The following is a list of tools/hardware needed for installation:

- Mounting hardware (4-1/4" x minimum 1" lag bolts)
- Drill and drill bits
- Wrench
- Phillips head screwdrivers (small and medium)
- Wire-wrap gun (T1 connection)
- 25-pair male amphenol cable (customer connection)
- Selected punch down block

🖑 **CAUTION** *Existing wall construction should be capable of supporting wall mount cabinet and associated equipment.*

Mounting the Assembly
Before beginning the installation, locate the mounting template found on the last page of this practice and complete the following steps:

1. Place mounting template on plywood in the desired location of the assembly.
2. Drill four pilot holes on plywood as detailed on the mounting template.

3. Install lag bolts leaving a ˘ inch space between the plywood and the head of the bolts.
4. Place assembly on the bolts.
5. Tighten down the bolts using the wrench.

Connections
Before making the electrical connections, fold the chassis down to expose the backplane by following these steps:

1. Lock the right knob, located on the side of the assembly, by pulling the knob out and rotating counter-clockwise until it has locked open. See Figure 2 for an illustration.

2. With the right knob locked open, pull the left knob outwards and rotate the chassis to the down position. Release the knob allowing the chassis to lock into place.

3. Using a small phillips head screwdriver, remove the four (4) back panel screws and remove the back panel.

4. Make appropriate connections outlined in the following sections.

5. After the electrical connections have been made, route all wiring through the semi-circle opening in the back panel and secure with four (4) screws.

6. Route cable ties (provided) through the cable tie holes on the right side of the assembly (see Figure 2) and loosely secure cables.
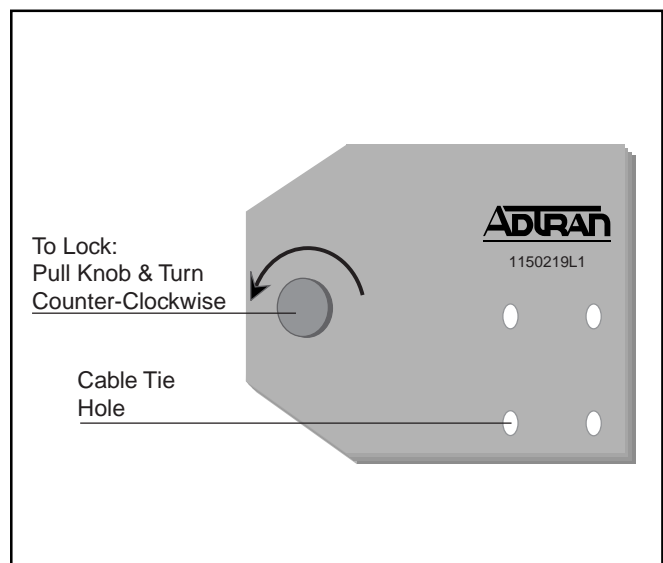

Figure 2. BR/10 Mounting

7. Return chassis to the upright position by pulling the left knob outwards and rotating the chassis upwards. To release the right knob, turn clockwise.

All permanent connections to the BR1/10 Wall Mount Chassis are made on the backplane. Table 1 describes the pin designations for JP15, JP16, JP17, and JP18. Figure 3 shows the chassis backplane and connectors.

NOTE *JP15, JP16, JP17, and JP18 read from left to right with Pin 1 being the first pin on the left.*

Telco Connector

One 50-pin male amphenol connector, JP14, is provided for the interconnect wiring of the ten channel positions on the BR1/10 backplane. This connector is usually terminated with a punch-down block for premises wiring, or connected directly to a cross-connect or main distribution frame. Figure 4 details the pin-out of the connector.

NOTE *Leads T1 and R1 are not used in applications requiring the BR1/10 U-BR1TE. The T1 and R1 leads will be used in future applications.*

Table 1. JP15, JP16, JP17, and JP18 Descriptions

PIN	LABEL	DESCRIPTION
		JP15
1	R1-I	DSX-1 Ring input from the network
2	T1-I	DSX-1 Tip input from the network
3	R-O	DSX-1 Ring output from the network
4	T-O	DSX-1 Tip output from the network
5	SG	Shield Ground, Cable shield for DSX-1
6	−48ALM	−48VDC Alarm, output−48VDC when PAU fuse tripped
7	MJ	Major Alarm Audible, normally open contacts. ACO provides override during bank alarm
8	MJR	Major Alarm Audible, common
9	MJV	Major Alarm Visual, normally open contacts
10	MJVR	Major Alarm Visual, common
11	LX(IN)	Input BITS compatible composite clock
12	LY(IN)	Input BITS compatible composite clock
13	EU1	Cable shield for output clock
14	LX(OUT)	Output BITS compatible composite clock
15	LY(OUT)	Output BITS compatible composite clock
16	EU2	Cable shield for input clock
		JP16
1	FG	Frame Ground
2	−48R	−48VDC Return
3	−48I	−48VDC Input
		JP17
1	GND	Ground
2	B	Future Applications
3	A	Future Applications
4	+	Local Clock (+)
5	−	Local Clock (−)
		JP18
1	R	Future Applications
2	R-RTN	Future Applications

Figure 3. BR1/10 Backplane

Figure 4. Telco Connector (JP14) Pinout

DSX-1 Termination, Office Timing, Office Alarms, and the Shelf Alarm are connected via JP15. Figure 5 gives a detailed look at each of the connections of JP15.

Figure 5. JP15 Connections

DSX-1 and DS1

DSX-1 and DS1 connections are made via JP15, pins 1 through 5 (see Figure 6). The Line Interface Unit (LIU) List 1, part number 1150079L1, provides termination for a DSX-1 signal only. The LIU List 2, part number 1150097L2, provides termination for either DSX-1 or DS1 signal. Line build-out and equalization settings are made on the Bank Controller Unit (BCU).

Office Timing Supply

The Office Timing input/output pins are located on JP15, pins 11 through 16 (see Figure 7). The incoming Building Integrated Timing Supply (BITS) connects to pins LX (in) and LY (in); EU2 is used to

ADTRAN   Section 61150219L1-5, Issue 1   61150219L1-5A

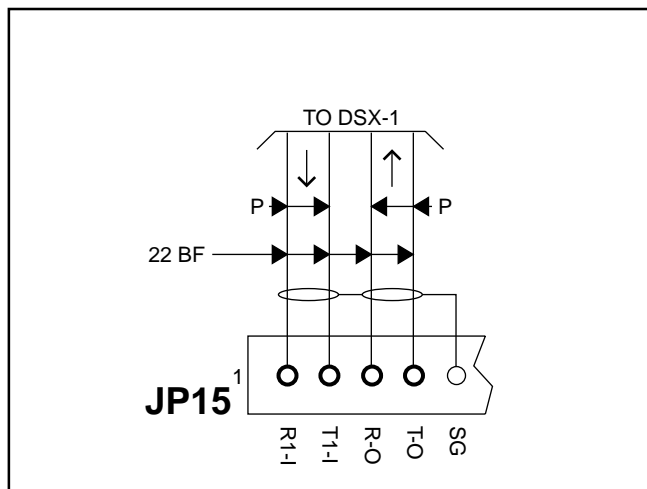shield the two inputs. Figure 8 shows timing connections for a BR1/10 Wall Mount Chassis.
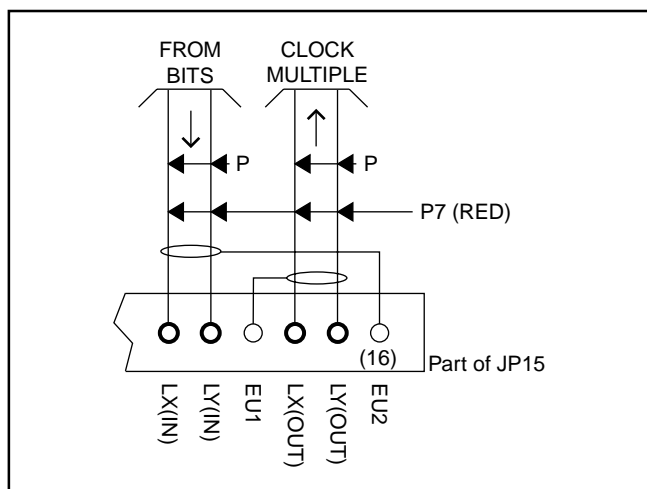

Figure 6. DSX-1 Connections on JP15

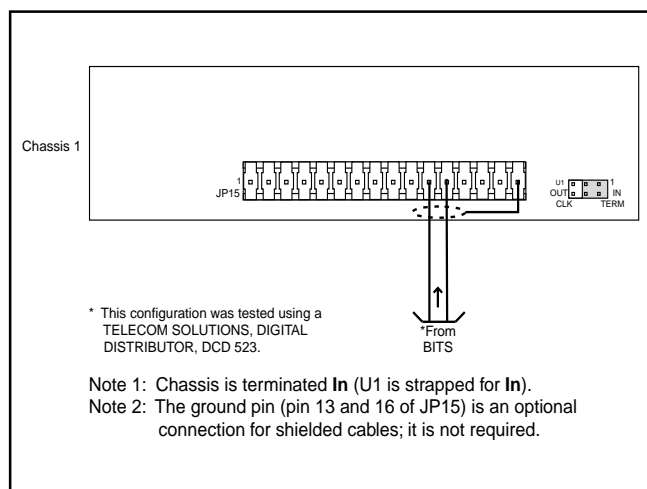**Figure 7. Office Timing Connections on JP15**

Figure 8. Local Composite Clock Wiring for a Single Chassis

Office Alarms

The backplane connections for the alarm relays are found on JP15, pins 7 through 10, and are labeled MJ, MJR, MJV, and MJVR (see Figure 9).

The alarm relay contacts are normally open when the BR1/10 is functioning properly, and no alarms are received from the T1 carrier. The alarm relay contacts will close in the event of a local alarm condition or the receipt of an alarm from a T1 carrier. In a carrier alarm condition such as red, yellow, or blue (Unframed All 1's), several alarm relay contacts located in the BR1/10 close. Carrier alarm conditions cause the BR1/10 to go into trunk processing and the following events will occur:

1. MJ will be directly shorted to MJR
2. MJV will be directly shorted to MJVR

Contacts MJ/MJR can be manually overridden during an Alarm Condition. The ACO pushbutton on the BR1/10 PAU faceplate will open the contacts during a bank alarm condition providing a means to control an external Audible Alarm. No other alarm contacts are affected by the ACO pushbutton.

The BR1/10 PAU List 2, P/N 1150078L2, provides alarm relay contact closure in the event the –48V PAU faceplate fuse is tripped. In this alarm condition, the relay contacts will close in the same manner as if the BR1/10 was in a Carrier alarm condition, but depressing the ACO pushbutton will not cancel the audible alarm.

Relay contact closures are a function of the PAU common unit only, not the chassis. A summarization of alarm notification is found in Table 2.
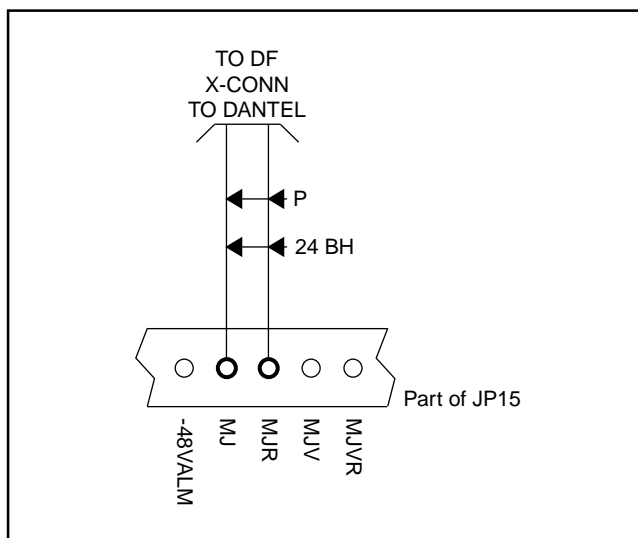

Figure 9. Office Alarm Connections on JP15

Table 2. Alarm Notifications

CONDITION	RELAYS ACTIVATED		OTHER
	MJR	MJVR	–48 ALM
Red Alarm	X	X	
Yellow Alarm	X	X	
AIS Alarm	X	X	
PAU Fuse Blown	X[1]	X[1]	X
ACO Deactivates	X[2]	X	
[1]PAU List 2, P/N 1150078L2, only			
[2]ACO does not deactivate MJR during a blown fuse			

Shelf Alarm

The –48V alarm (–48ALM) located on JP15, pin 6, provides a –48VDC signal when the PAU fuse is tripped.

Power Connections

The BR1/10 Wall Mount Chassis provides a three-position terminal strip, JP16, on the backplane for power connections . Ring lug terminations are recommended for connecting to JP16. When using the ADTRAN Wall Mount Power Supply, part number 1150101L1, insert the –48V wire (**BLACK**) into terminal 3 (–48I) of JP16. Insert the return wire (**RED**) into terminal 2 (–48R). Insert the frame ground wire (**GREEN**) into terminal 1 (FG).   See Figure 10.

> **CAUTION**
> *Since the frame ground and the –48V return are isolated in the bank, these grounds should be connected externally to a central ground.*
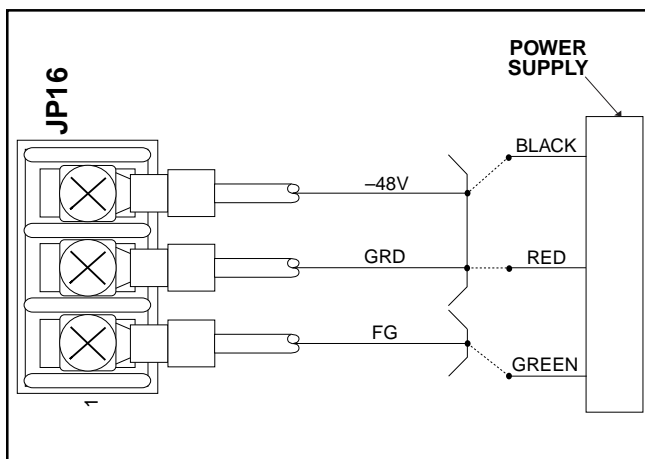

Figure 10. Power Connections on JP16

OPTIONS

RS-485 Connection
The RS-485 link connection is made on JP17, pins 1 through 3, located on the bottom of the backplane. This connection is provided for future applications.

LOC CK
When BITS is not available, JP17, pins 4 and 5, provide a phase-locked-loop local composite clock output. While not intended to provide multiple outputs, this output can be used to provide a clock source for a single channel bank when an external output is required. This option can be used in a tandem configuration that does not have a centralized composite clock source.

When necessary wiring and connections are completed, replace the clear plastic cover on the backplane. The common equipment and channel units may then be configured and installed. Refer to the appropriate ADTRAN Practices for information specific to each plug-in card.

3. MAINTENANCE

The BR1/10 Chassis requires no routine maintenance to operate properly. Test and maintenance for the specific plug-ins should be conducted in accordance with the recommendations and procedures prescribed in associated Installation and Maintenance Practices.

ADTRAN does not recommend that repairs be performed in the field. Repair services are obtained by returning the defective unit to ADTRAN's Customer Service.

4. SPECIFICATIONS

Refer to Table 3 for unit specifications. Table 4 contains part number references.

5. WARRANTY AND CUSTOMER SERVICE

ADTRAN will replace or repair this product within ten years from the date of shipment if it does not meet its published specifications or fails while in service (see *ADTRAN Telco Network Equipment Warranty, Repair, and Return Policy and Procedure,* document 60000087-10A).

Contact Customer and Product Services (CAPS) prior to returning equipment to ADTRAN.

For service, CAPS requests, or further information, contact one of the following numbers:

ADTRAN Technical Support
  (800) 726-8663
  Standard hours: Monday-Friday, 7 am-7 pm CST
  Emergency hours: 7 days/week, 24 hours/day

ADTRAN Sales
  (800) 827-0807

ADTRAN Repair/CAPS
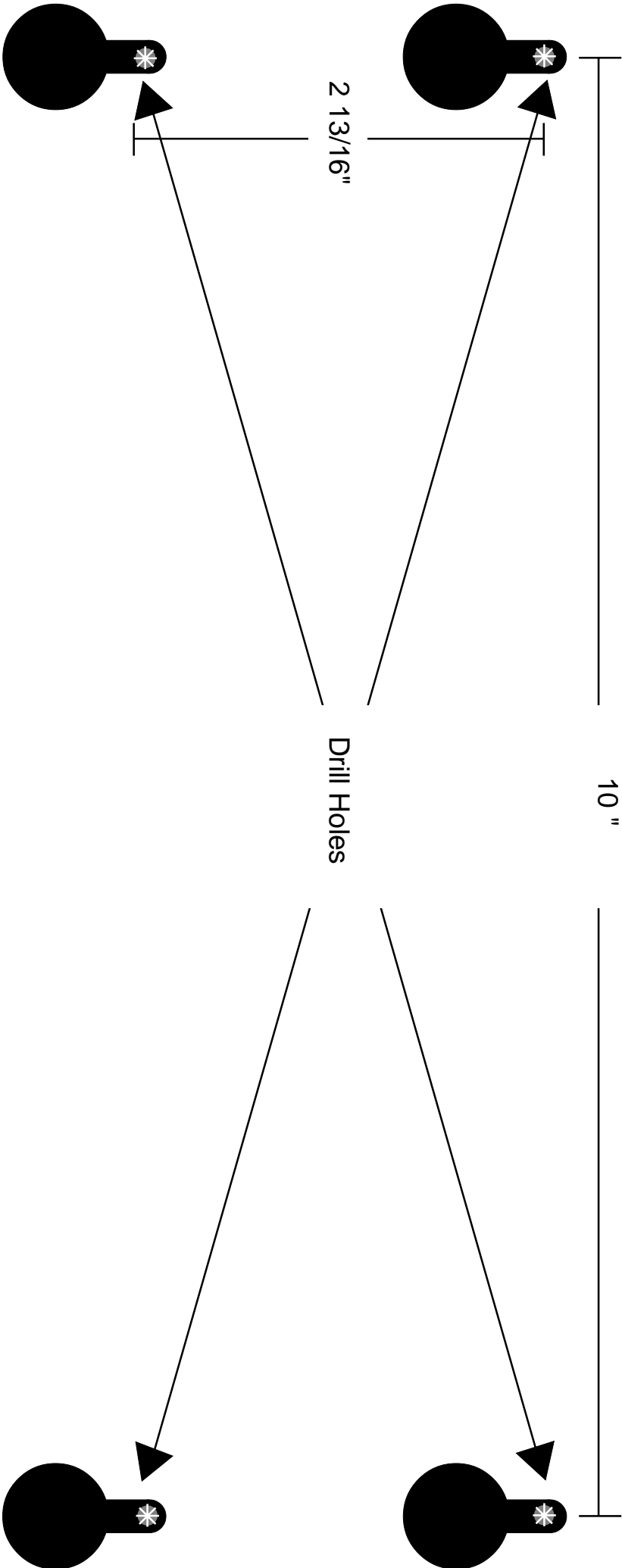 (256) 963-8722

Repair and Return Address
  ADTRAN, Inc.
  Customer & Product Services (CAPS) Department
  901 Explorer Boulevard
  Huntsville, Alabama 35806-2807

Table 3. Specifications

SYSTEM POWER REQUIREMENTS	
Input DC Voltage:	−42VDC to −56 VDC −48 VDC nominal
Max Current:	1.0A fused
Fully Loaded w/U-BR1TE:	0.2A @ nominal
Commons Only:	.06A
ENVIRONMENTAL	
Operating Temperature:	−40° to 158° F (−40° to 70° C)
Storage Temperature:	−40° to 185° F (−40° to 85° C)
Relative Humidity:	95 % max, non-condensing
PHYSICAL	
Dimensions:	Up 15 3/8" W x 11 5/8" H x 5 1/2" D Down 15 3/8" W x 5" H x 12 3/8" D
Weight:	12.5 lb. fully loaded

Table 4. Part Number Reference

ADTRAN PART NUMBER	DESCRIPTION
1150219L1	BR1/10 Wall Mount Chassis; No Commons
1150101L1	115 VAC to −48 VDC, 20 W Wall Mount Power Supply and Mounting Bracket
4150BR1X10WAL1	System Package; Includes Wall Mount Chassis with Commons (PAU, LIU, BCU) and AC Power Supply

ADTRAN

BR1/10 WALL MOUNT
MOUNTING TEMPLATE

2 13/16"

10 "

Drill Holes

This Side Up