



Mini-IHS[©]
CD/DVD IDENT & Artwork Verification System
Specification Document

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The Bronway **Mini-IHS** IDENT & Artwork (optional) Inspection Handling System is a mechanical handling system designed specifically to support the automated inspection of CD & DVD's in a manufacturing environment with minimum operator intervention. This product is ideally suited for full verification of discs (Code & Label) in a multi-disc hand-pack environment thus guaranteeing that the correct disc is being inserted in the correct position of a multi-disc package. Multiple systems can be networked together in a Master/Slave configuration for simple/automatic or remote setup from your factory wide MIS System.



Bronway Mini-IHS Floor Standing Inspection Handling System together with the integrated Bronway IDV-120 IDENT Code Reader and **optional** AVS-100 Artwork/Label verification system (at any angle).

The machines mechanism's employed are second generation and have proven to be highly reliable in the field.

The machine is controlled and monitored by a Omron PLC and almost all motions are electro-mechanical.

The Operator Control Panel utilises an Omron MMI together with hardware push buttons for the more frequently used functions such as (Stop, Start, Reset and Emergency Stop). Password entry for alarm verification (contamination) is via a numeric keypad

Description of operation

The machine comprises of a pair of indexers mounted within a solid welded frame construction.

The first indexer can cater for six spindles of 150 discs on each. This is accessible to the operator through an interlocked door.

The second indexer has a dial plate attached; the dial plate has four nests machined with solenoids on the diameter of each to hold the discs in place.

At the first index (disc pick position) a pneumatic/vacuum actuator will pick a disc from the top of the spindle and lift/place it into the dial plate.

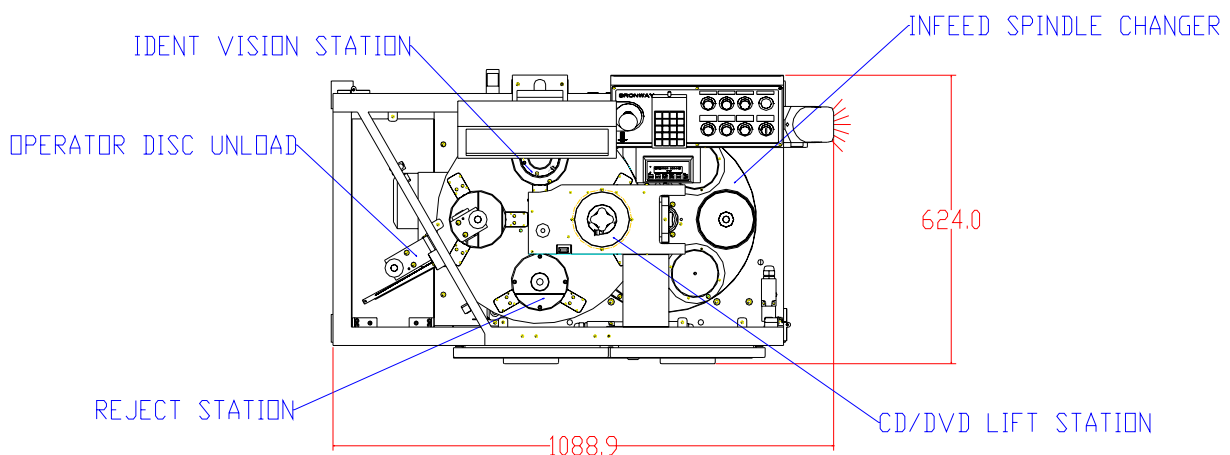
At the second index position the disc is rotated into a dwell position over the IDV Code Reader (IDENT Inspection System) and below the AVS-100 (Artwork Verification System). This will determine if the disc is a "Pass", "Fail" or a "**Contaminated**" disc.

On the third index the disc is brought to the exit buffer station. If a disc is a "Pass" the disc will drop onto a spike below the dial plate. When the spike is full it will rotate thru 180 degrees and continue dropping onto an empty spike.

The fourth and final station is reserved for rejected discs. Discs that are determined, as "**Fail**" shall be dispensed onto a standard removable spindle placed below the dial plate and accessed through an interlocked polycarbonate door.

In the event of **True Contamination** being detected the Mini-IHS and/or full line will automatically stop, alarms will be enunciated and the system will require the intervention of an authorised person to re-start the system via a valid password entry. Discs that are determined "**True Contaminated**" can then be picked out of the nest manually. The keying in of this password will automatically grant access to this nest through a **protected safety interlocked door** in the top of the polycarbonate guard. This will ensure that "Fails" and "Contamination" are successfully separated with True Contamination requiring a supervisor/quality officer's attention.

True Contaminations images (IDENT & Artwork), together with the Works Order NO., the time and date of occurrence, the trained Code(s) for the Job (in which the contamination occurred) and the Contaminated Code will be recorded in the logs for full traceability. The Contamination count will also be recorded in the production statistics.



Features: -

- Very compact Floor Standing Unit.
- 6 Spindle CD/DVD loading station.
- CD/DVD IDENT Inspection from below.
- CD/DVD Artwork Inspection from above (Optional).
- Integrated Reject station/spindle through an interlocked door (Contamination Only).
- Bar Code Scanner to input job data.
- Automatic feed of disc stack at unload station with manual override push button.
- Precision encoder position control.
- 4 position CAM Indexing drive & Table.
- Up to 60 CD/DVD presentations at the inspection station per minute.
- PLC Control with 17" Screen and Push Button Control.
- Mounted on lockable castors for ease of relocation.
- Ethernet Network-Ready for Master/Slave operation.
- Power Requirements: Single-phase 220/240VAC.
- Air Requirements: 6 Bar.
- CE-Marked.

Options

- Artwork Verification System (AVS) to inspect disc artwork *at any angle*.

BENEFITS:

- High Speed validation of discs IDENT & Artwork prior to hand pack assembly.
- Operator defined batch counts capability – invaluable where hand-packaging quality assurance is controlled by kitting exact quantities to each operator.
- Enhanced security measure within packaging area.
- 100% incoming inspection capability without risk of incurring line downtime.
- In process validation if required.

SPECIFICATIONS:

- Weight 400Kg.
- Dimensions 1.088m x 0.624m x 1.0m. (0.9 for disc pick height)
- Energy Requirements 220VAC 50/60Hz.
- Air 6 bar (10 CFM at 80 PSI)

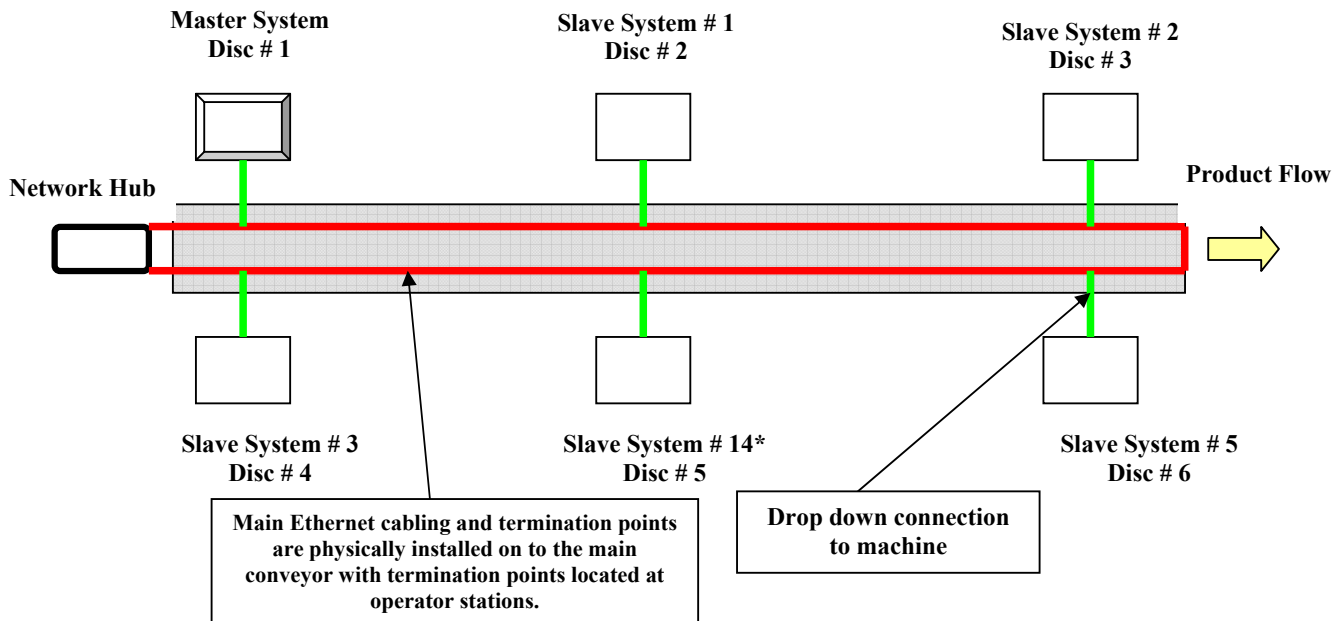
Proposed Network Configuration of Multi Mini-IHS/IDV work cells

The Bronway IDV systems can be connected in a workgroup using an Ethernet hub. For the sake of convenience it is proposed to install Ethernet sockets at convenient locations within the work cell. This will allow Mini-IHS/IDV systems to be added and removed, using drop-down Ethernet cables, as the packaging requirement demands.

The Mini-IHS/IDV that is used to check disc #1 of a set will be designated as the **master system** and all new order set-ups will be done via this master machine. This machine will also have the facility to connect to the plant-wide network system. The machines used to check discs #2 to n, where n is the number of discs in the set, will operate as slave systems and receive the new order set-up information from the master system over the Ethernet network.

All systems will be uniquely identified using the Bronway serial number that is allocated to the IDV system at the time of manufacture. This machine identity will be displayed in the title bar of the code reader to enable physical machine identification.

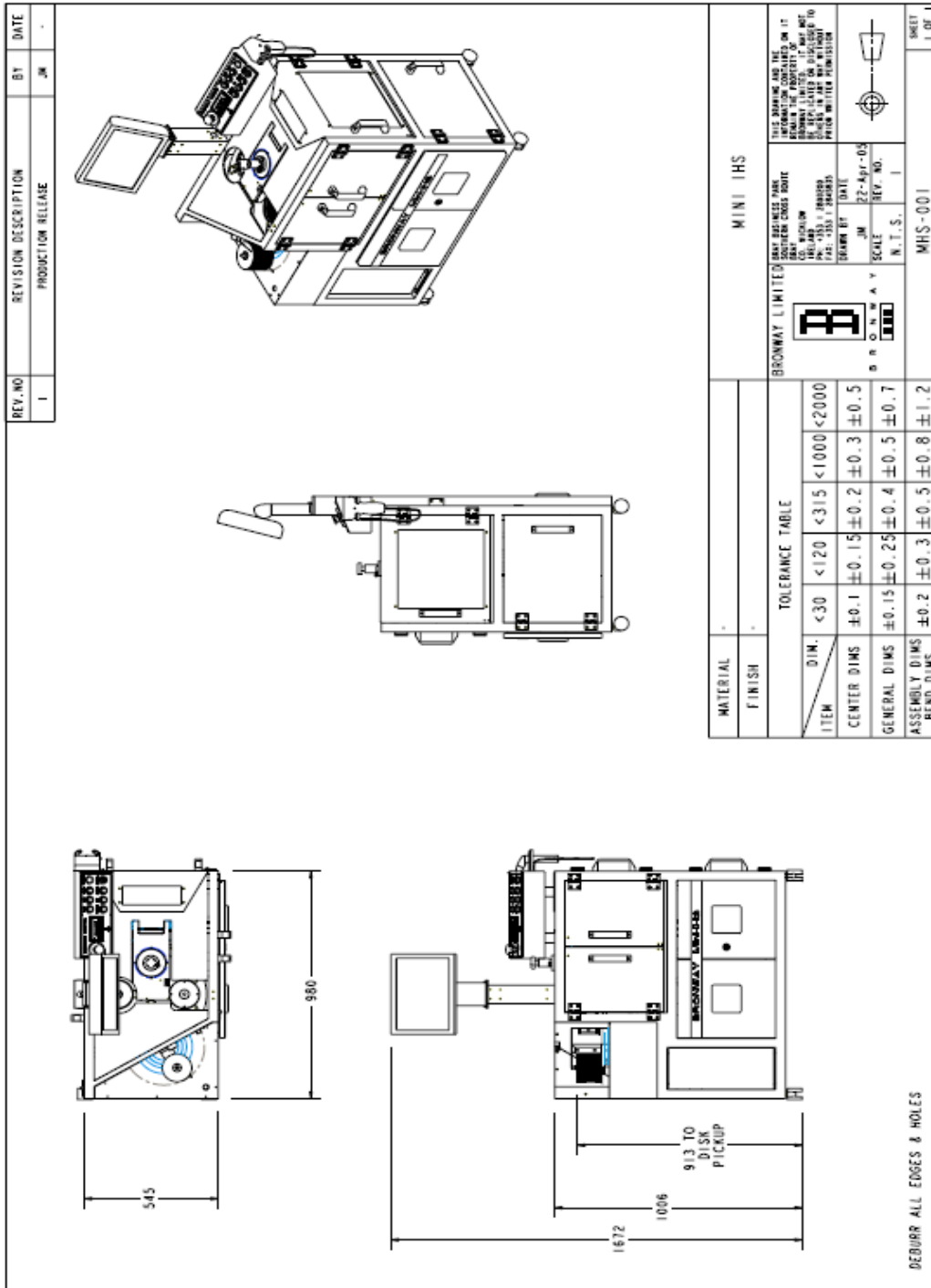
Whenever a machine is removed or added to a work cell it will be necessary to assign a disc number to a physical machine. This will be done using a configuration module on the master Mini-IHS/IDV.



*Note slave systems can be added and removed as required and configured accordingly.

The set-up of a multi-disc new order will incorporate failsafe features. This will include an alarm condition if one of the slave systems fails to respond to a new order set-up instruction from the master. A full summary of a multi-disc new order set-up will be displayed to the operator so that the number of discs in the order together with the identity of each of the discs can be verified.

The new order information, for all discs within the set, can be scanned from the works order sheet directly in to the master system, which will then be automatically distributed to the work cell slave systems. Alternatively, a link to the main factory network system will be provided on the master system for remote download of disc IDs.



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